

Amendment to the Claims

1-10. (Cancelled)

11. (Withdrawn - currently amended) A method for positioning when replacing anodes in an electrolysis cell of Hall-Héroult type with prebaked anodes, in which a crane with an anode gripper is used to lift out used anodes and to insert new anodes, the anode gripper acts in a predetermined, fixed point in the hanger of the anodes, and in which a new anode is inserted at a height in accordance with a calculated height based on the height of the anode removed, the height of the anode removed and the height of the new anode being measured against a common reference level, wherein:

laser-based measuring equipment for length measurements is arranged between a point on the crane, which is stationary in terms of height during the operation, and a point on the anode gripper, which moves together with the anode, such that the equipment measures the heights stated and ~~that~~ the measured values are processed by a PLC-based system, which determines the insertion height of the new anode in accordance with a specific algorithm, and

the laser-based measuring apparatus is mounted on the crane, and the laser-based measuring apparatus includes a laser cell, which is operable to emit a ~~substantially~~-vertical laser light and detect reflected laser light.

12. (Withdrawn) A method in accordance with claim 11, wherein the algorithm comprises the following formula:

$$D = A - B + C - X,$$

where:

D is the desired position of the new anode.

A is the position of the used anode in the cell.

B is the position of the used anode on the reference level.

C is the position of the new anode on the same reference level.

X is the additional height for insertion of the new anode in relation to the used anode.

13. (Withdrawn) A method in accordance with claim 11, wherein before the height stated is measured, play is eliminated in the anode gripper and connected mechanical structures in the crane by the anode gripper being subjected to a first lifting force that is less than the weight of the burned-out anode.

14. (Currently Amended) Equipment for positioning when replacing anodes in an electrolysis cell of Hall-Héroult type with prebaked anodes, the equipment comprising a crane with an anode gripper to lift out used anodes and to insert new anodes, the anode gripper acts in a predefined point of the anode's hanger, with which a new anode is inserted at a height in accordance with a calculated height based on the height of the anode removed, the height of the anode removed and the height of the new anode being measured against a common reference level, wherein:

a laser-based measuring apparatus for length measurements is arranged between a point on the crane, which is stationary in terms of height during the operation, and a point on the anode gripper, which moves together with the anode, and the measuring apparatus is operable to measure the heights stated and transfer the data signals to a PLC, which processes measured, saved values and determines the insertion height of the new anode in accordance with a specific algorithm; and

the laser-based measuring apparatus is mounted on the crane, the laser-based measuring apparatus including a laser cell, which is operable to emit a substantially vertical laser light and detect reflected laser light.

15. (Previously Presented) Equipment in accordance with claim 14, wherein a reflective device for reflection of the laser light is mounted on the anode gripper.

16. (Currently Amended) Equipment for positioning when replacing anodes in an electrolysis cell of Hall-Héroult type with prebaked anodes, the equipment comprising a crane with an anode gripper to lift out used anodes and to insert new anodes, the anode gripper acts in a predefined point of the anode's hanger, with which a new anode is inserted at a height in accordance with a calculated height based on the height of the anode removed, the height of the anode removed and the height of the new anode being measured against a common reference level, wherein:

a laser-based measuring apparatus for length measurements is arranged between a point on the crane, which is stationary in terms of height during the operation, and a point on the anode gripper, which moves together with the anode, and the measuring apparatus is operable to measure the heights stated and transfer the data signals to a PLC, which processes measured, saved values and determines the insertion height of the new anode in accordance with a specific algorithm; and

the laser-based measuring apparatus is mounted on the crane, the laser-based measuring apparatus including a laser cell, which is operable to emit a substantially vertical laser light and detect reflected laser light,

wherein a reflective device for reflection of the laser light is mounted on the anode gripper, and

~~Equipment in accordance with claim 15, wherein the laser cell is contained in a dust-tight cabinet with a downward-facing opening, to which is attached a vertical tube through which the laser light passes.~~

17. (Previously Presented) Equipment in accordance with claim 16, wherein the cabinet is supplied with compressed air to establish air overpressure so that dust cannot reach up into the cabinet via the tube.

18. (Previously Presented) Equipment in accordance with claim 17, wherein the PLC is arranged so that the measured values transferred are stored and processed after interlocking to eliminate play.

19. (Previously Presented) Equipment in accordance with claim 18, wherein the interlocking involves the anode gripper being subjected to a lifting force equivalent to 60-70% of the weight of the anode, and the lifting force must be applied for at least 2 seconds before the measurement can be stored.

20. (Previously Presented) Equipment in accordance with claim 18, further comprising a display or a light signal for providing a visual indication that the measured values are saved.

21. (Previously Presented) Equipment in accordance with claim 19, further comprising a display or a light signal for providing a visual indication that the measured values are saved.